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Commentary

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The use of fluoridated drinking water is an effective measure to prevent dental caries. This procedure, in use since the 2nd half of the 20th century is, along with the use of fluoridated dentifrices, a major factor responsible for the decline of dental disease, becoming the most cost-effective measure to prevent dental caries.[1] Depending on climate and geographic region, a fluoride concentration of 0.7 ppm - 1.2 ppm is recommended for drinkable water.

The primary preventive mechanism of fluoridated water is topical, after tooth eruption, for both adults and children. Such mechanism includes the inhibition of demineralization, an enhancement of remineralization and the inhibition of bacterial activity in dental plaque.[2] Some communities with natural fluoridated water may have a higher concentration of fluoride, with systemic risks for the population. Among these risks, dental fluorosis is probably the most common.

There are described in the literature several other risks, especially if fluoride exists along with a high concentration of arsenic,[3,4] or by itself in high dosage.[5] Most of the reported cases occur in China, India, Mexico and Bangladesh.

The article “Effect of fluoride exposure on intelligence of school children in Madhya Pradesh, India” presents an effort to address the issue of the effect of fluoride exposure on children intelligence, considering a wide approach to the analysis of this theme. Multiple interactions and social aspects were observed, namely personal characteristics and residential history, medical background and nutritional status. Also, an evaluation of water fluoride content, urine content of fluoride, lead and arsenic and urinary iodine, as well as the assessment of intelligence, contributes to the comprehensive study of the individual and the effects of these parameters on the intelligence of school children. This approach is a good example of the need to make a holistic evaluation of health risk factors since it is accepted in the scientific community, that most of the problems are multifactorial. The study presented on this article positively contributes to the discussion on the effect of high fluoride content in drinking water on intelligence of school children.[6]

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